

# Pro/file Updates

The Newsletter For ZX Pro/file Users

Vol. 1, No. 4

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## UPDATES UPDATES

Our little newsletter is growing up. Not in numbers of pages or in circulation but content. This issue is the first one where the majority of topics covered was provided by you--not me. For this, I thank you. It makes my job as editor one heck of a lot easier when I don't have to scramble for stories myself. I have a tendency to panic when the issue date comes round and I still have 2-3 empty pages. Your input saves the day. Keep those cards and letters coming in.

Circulation IS growing. At last count there were some 650 subscribers. For a newsletter devoted to further the utility of one specific program, I feel this is a very respectable number. You might also be interested to learn that as of October 1984, there are just a whisker less than 2500 legitimate copies of ZX Pro/File in circulation.

This means that a quarter of the people who bought Pro/File subscribe to the Updates. Take note that I purposely use the word "legitimate". I suspect that there are probably at least as many "illegitimate" copies of the program in use. As a software vendor, I quite naturally would prefer that everyone buy Pro/File. I make money when this happens, and it assures that I'll be around to write more programs. I recognize, however, that "sharing programs" is a veritable fact of life. There is just no way to stop it. My approach to dealing with this situation is not to take steps to obscure the program or make it un-copyable, but rather to provide everything a person could want. That's one big reason why there is a Pro/File Updates. My thinking is, if I can't sell 'em a copy of ZX Pro/File, maybe I can at least sell 'em a subscription to the newsletter.

-continued page 2

## WHAT'S NEW FOR VOLUME TWO

Volume 1 ends with this issue. For all but a tiny handful who have already renewed for next year, its time to sign up for volume 2. Its the same old price (\$9.95) for the same great subject matter. Next issue, I have a modification that adds math capability to Pro/File. I also hope to further develop this issue's Machine Code Edit cursor so as to allow for HORIZONTAL cursor movement as well. Other topics further down the road include the elusive CAI printer mod, alphabetizing, "OR" searches (e.g. search for words 1 and 2, OR word 3 and not 4), and a solid package for your computer that you can drop on the floor with no fear of crashing the program. To renew your subscription, send \$9.95 payment as soon as possible. Mark "RENEWAL" on your note so I don't screw things up and send you a set of volume 1 by mistake.

STAY TUNED . . . . .

## UPDATES (cont.)

I am about to launch a new subscription drive. My goal is to boost circulation over the 1000 mark. I'm asking you for some help in accomplishing this. If you ever "shared" a copy of ZX Pro/File with a friend, ask them if they'd like to subscribe to Updates. You know and I know that they are missing a lot if they don't get it.

If you always guarded your Pro/File and directed anyone who asked for a copy to get one from me, I appreciate the respect you have for my work. But now I'm going to ask you, why not cut a copy for a friend or two. Show them an issue of Updates so they can see how much more they will get if they subscribe to the newsletter. The result is that everybody wins. Friends get a free copy of Pro/File, I get a new paying subscriber, and you get a newsletter that is financially sound, widely read, and able to provide you with articles from a broad range of reader interests.

## Z80 CHIP REPLACEMENT UPDATE

Many readers reported that last issue's suggestion to replace the Z80 microprocessor chip inside the computer to solve unexplained crashing problems works.

Tom Bent, the illustrious editor of SyncWare News suggests that the Z80B processor chip is a much beefed up version of the Z80A. It costs a little more, but is able to handle severe loads on the buss.

The Z80B is available from Jameco Electronics, INC., 1355 Shoreway Rd., Belmont, CA 94002 (Phone: 415-592-8097) Price is \$9.95.

The Z80 chip is plugged into a socket on the TS1000 circuit board. Replacing it is a simple matter of pulling the old one out and plugging the new one in.

While it is impossible to guarantee that this procedure will solve your specific problem, it is, for the cost, worth a try. Who knows, maybe you'll get lucky!

## ZX PRO/FILE and the LAW Eugene G. Kramer/Freeburg, IL

As the Technician In Charge for the Illinois State Police, District 11, I use the Pro/File to perform:

- Inventory of parts
- Squad car equipment lists
- Technical Reports
- Agency telephone numbers
- Work schedule lists

I'm also a volunteer ESDA (Civil Defence) director for our city and use the file system for work list schedules, emergency calls, inventory of supplies, and mailing labels. The TS computer is a powerful tool in my profession.

(editors note) If you get picked up in Illinois tell 'em you use ZX PRO/FILE. Who knows, maybe you'll get lucky!

## IMPORTANT PRO/FILE 2068 NOTE

If you purchased a copy of PRO/FILE 2068 and you're wondering why you haven't received a copy of the manual yet, its because the book is still not finished. I have been very busy of late and have not been able to devote the time needed to complete it. I am working on it. I'll send your copy as soon as I can. Your patience will be appreciated. I do have finished the chapter on interfacing big printers and will forward this section to any who ask for it if they send \$2 for copy charges and postage.

## Q-SAVE ON THE TS1500 David W. Thomas, Millbrook, AL

I use a Timex 1500 which I got to replace my 1000 so that I might continue to use the programs and accessories I purchased for the TS1000. I was dismayed to find that my Q-SAVE would not work with the 1500. A letter to the importer brought the answer that the two were just incompatible. I recently found by accident that the program works fine, just don't use the filter/amplifier unit. I did find that I had to use the cables that came with the Timex (longer cables seem to lose too much voltage) and use full volume on the recorder.

## ACCELERATED SAVING with ZXLR-8

ZXLR-8 is a program that speeds loading and saving time with the ZX/TS. You can use it with Pro/File to typically load a 16K program in about 30 seconds. It is quick, readily available and inexpensive. Price is \$10.00 from G. RUSSELL ELECTRONICS, RD1 Box 539, Centre Hall, PA 16828. Phone: (814) 364-1325.

If you use a disk drive, there is no comparison in speed between ZXLR-8 and the disk. However, ZXLR-8 can do a lot of things the AERCO disk system can't do. The ability to save and load raw bytes of memory opens up the possibility of merging parts of different files into one. ZXLR-8 is a very powerful program with benefits that even a disk owner should not pass up.

### A Functional Overview

In order to use ZXLR-8 with ZX Pro/File a brief description of the program is in order. ZXLR-8 is a relocatable machine code program that can be used in place of the built-in ROM tape facilities. The advantages are higher speed and more versatility. With ZXLR-8 you can, in addition to saving and loading programs, save and load just variables, raw bytes of memory, TV graphics, and you can read data saved on tape to determine its name or what kind of data it is.

You operate ZXLR-8 by issuing a RANDUSR call to the address where the program is stored in memory. ZXLR-8 then takes over and prompts you to input the information it needs to perform what it is you want the program to do. This is information such as the name of the file, its type (eg. program, variable, graphics, etc), whether you want a SAVE or a LOAD operation, etc.

After the operation is complete, ZXLR-8 returns control to either you the operator or the program which jumped into ZXLR-8. The utility runs in a very simple and straightforward manner, but it is so versatile that it can be a bit confusing at the start. The trick to mastering ZXLR-8 is to experiment with it. Don't be afraid to jump in with both feet. Remember the adage, "practice makes perfect".

## General Procedures

Whenever you use a fast load program like this you must always first load the utility using the normal LOAD "program" command from the keyboard. Then you can use the utility to fast load or save the program (like Pro/File) that you wish to use. Also, you cannot fast load a program until it has been fast saved.

Utilities such as this do not take a normal speed tape and magically make it go faster. Therefore, you must load the slow tape into the computer, modify it if necessary so it can be fast saved, and then save it using the new accelerated procedure. Once you have this on tape it can then be fast loaded.

### Modifying ZX Pro/File

Since ZXLR-8's machine code is relocatable (eg. you can put it anywhere in memory and still make it work), the first decision is where to put the utility.

If you use 16K of ram, there is only one choice: above ramtop. If you use more memory and you have the 8-16K block of address space available, you could put it somewhere in that area. In either case, ZXLR-8 requires 2K bytes of free memory in which to reside.

I advise placing ZXLR-8 so it starts at address 8192 (decimal) if you have it to use. Otherwise, keep the program above ramtop and starting at address 30500. This address (30500) is what the directions that follow will use as an example, and what you should use if you have a 16K ram pack.

16K ram owners will also need to reduce file capacity of ZX Pro/File in order to free up the 2K of memory needed for ZXLR-8. If you use 64K of ram, you don't need to reduce capacity since the utility will reside in the lower unused address space starting at 8192.

## Here's What You Must Do

1. LOAD your copy of ZX Pro/File and reduce the size of D\$ by 2268 characters. Follow the directions in past issues of Updates or in the Pro/File manual to do this. If you are starting with a "stock" copy of Pro/File with a D\$ length of 11000 characters, the reduced D\$ array would equate to a D\$ with a length of 8732 characters. (Note: 64K ram owners: you do not need to reduce capacity)

2. With D\$ suitably altered, change lines 25 and 35 of the Pro/File Basic so they read:

```
25 IF X$="TAPE" THEN RAND USR  
30500  
35 IF X$(LEN X$)="/" OR X$="TA  
PE" OR LEN X$>28 THEN GOTO 18
```

3. This new version of the program must be saved on tape, but do not do this by going to 17 and typing SAVE from the Main Menu like you usually do. Instead, with the program listing on the TV, type SAVE "ZX" and ENTER. Record the program on a spare tape.
4. When you get the report 0/0 at the bottom of the screen, turn off the recorder and pull out the cassette. Set it aside, now, while you load the ZXLR-8 program. To do this, type LOAD "Z".
5. After it has loaded, the first prompt comes on the screen automatically. Before you actually start running the program, a few changes can be made to make its performance with ZX Pro/File much smoother. Break into the program listing by typing STOP and ENTER. Press ENTER again and ZXLR-8's basic will appear on the TV screen.
6. Delete ZXLR-8's Basic lines from 9005 to 9023. To do this, type the line number you wish to delete, then press ENTER. Presto, the line is gone.

7. Now add these Basic lines:

```
9005 POKE 16961,15  
9010 POKE 17107,234  
9020 LET L=30500
```

Important: line 9020 creates the variable L which is equal to the starting address of the ZXLR-8 machine code when it is located above ramtop (16K rammers). If you locate the program at 8192, you change this line to reflect the new starting address such as LET L=8192 (for 64K)

8. Insert a new high quality tape into your recorder and prepare to SAVE this modified ZXLR-8. Start the recorder and type GOTO 9000 and ENTER to save it.

After the save is complete, the program adjusts ramtop, moves the machine code from the REM statment it was in originally up to its new home starting at address 30500, and then executes NEW. Don't be surprised, therefore, when you find the K-cursor staring you in the face. This is precisely what should happen.

9. Turn off the recorder. Do not rewind the tape. Instead, pull it out of the recorder and set it aside while you re-load the tape you just made of the shortened ZX Pro/File.
10. When you get the old snake eyes (a 0/0 report code), Type GOTO 17 and ENTER to start the program running.
11. Type "TAPE" once the Main Menu is on the screen. The ZXLR-8 now takes over. It prompts, "INPUT FILE NAME", to which you respond: ZX (or some other name that seems appropriate). Second, ZXLR-8 asks, "INPUT COMMAND". This means type the function you wish the program to execute. You respond: PS meaning Program Save. The third prompt says "START TAPE".

12. Pull out the Pro/File tape and stick the modified ZXLR-8 program you just saved in step 8 back in the tape recorder. Press the record button and then press ENTER on the computer. About 30 seconds later the program finishes saving and a prompt comes up on the screen which says, "STOP TAPE". Do so and press ENTER again to return to ZX Pro/File operation. You have just completed the modification.

### Reloading the Cassette

Now when you are ready to start a session with ZX Pro/File, LOAD the first program in the normal way. Type LOAD "Z".

When you get the K-cursor on the screen type RAND USR 30500 (or RAND USR 8192 if you use 64K of ram).

Follow the ZXLR-8 prompts to load the program you need. Enter the file name (ZX), enter the command to load a program (PL), and play the tape to load it.

Several different Pro/Files can be given different names and saved onto the same tape. Using the Index Load feature of ZXLR-8, you can read the program names to find out just which files you have saved.

AND THE WINNER IS...  
(The most unusual use Dept.)

SET LISTS! We have a little country western band and we play for dances in our local Austin Texas area. I put every song we do in Pro/File complete with its key, who sings it, key changes, and type (waltz, two step, etc.). When it comes time to play a gig, I go in and select the songs we are to play and add a two digit code which describes set number and song number within each set, do an Auto Search and Print. Out comes a tailor-made set list of the songs we will play.

The Timex printer paper is the perfect size for taping to the top edge of my guitar! Keep on Hackin' ..... Charlie Fagg

How many times have you been adding or editing a file and suddenly found yourself face to face with the program listing without knowing why or how you got there?

This annoying occurrence is caused by accidentally pressing the BREAK key while the edit cursor is blinking. If you're not paying attention, the results can be disastrous.

To recover from an unintentional BREAK there are two things you can do: Press CONT and ENTER, which starts the cursor blinking again, or type GOTO 17 which sends you back to the Main Menu. In both cases, whatever was displayed on the TV screen before you hit the Break key will be lost and must be added back.

Unintentional BREAKS are bad news. Think for a minute of what could happen if you were typing numbers into a file and you accidentally press Break. Without realizing it, you could type a number, press ENTER, and delete a program line. Depending on what got deleted, you could have a real mess on your hands.

Ever since the first time I accidentally hit BREAK, I've been thinking about how this problem could be eliminated. Now, several hundred BREAKS later, I offer you this fool-proof alternative to the blinking edit cursor.

### What It Does

This routine uses a machine code keyboard scan that ignores the break key. Instead of having a cursor "blink", it stays on all the time, taking the form of an inverse graphic greater than sign (>). You still use the up or down arrows to move it, you still press ENTER to input a line of text, and you still press "C" to close a file. But you can press BREAK to your heart's content without the slightest concern. What's more, this modification is compatible with Dan Pinko's LINE INSERT command that appeared in Updates Vol. 1, No. 2. In fact, the procedure for entering the machine code is the same for both features so you would do well to bone up on that issue.



## The Necessary Changes

Follow the instructions given in Updates 1:2 page 5--Machine Code in Pro/File, Where to Stick It--to reserve the first 255 characters of the D\$ array for machine code.

This Keyboard routine occupies the 22nd to the 119th characters of D\$ so to put the code in, add these program lines:

```
9900 FOR X=22 TO 119
9910 INPUT Y
9915 LET D$(X)=CHR$(Y)
9930 NEXT X
```

Enter GOTO 9900 and input the numbers given in the VALUE columns in the poker table given below and at the top of the next column. Ex: 62, ENTER, 3, ENTER, 50, ENTER, 43, ENTER and so forth.

When the program stops, add, delete, or alter the block of Basic lines from 500 to 565 so they look like the listing in the next column.

### MACHINE CODE POKER TABLE

CHARACTER D\$(X)	VALUE	CHARACTER D\$(X)	VALUE
22	62	57	18
23	3	58	254
24	50	59	46
25	43	60	40
26	65	61	56
27	205	62	24
28	187	63	28
29	2	64	9
30	44	65	58
31	40	66	43
32	250	67	65
33	45	68	60
34	229	69	50
35	193	70	43
36	205	71	65
37	189	72	254
38	7	73	15
39	1	74	56
40	33	75	13
41	0	76	237
42	126	77	66
43	245	78	58
44	42	79	43
45	14	80	65
46	64	81	61
47	175	82	50
48	119	83	43
49	241	84	65
50	254	85	254
51	34	86	3
52	40	87	56
53	10	88	231
54	254	89	34
55	35	90	14
56	40	91	64

## POKER TABLE (Continued)

CHARACTER D\$(X)	VALUE	CHARACTER D\$(X)	VALUE
92	79	106	200
93	245	107	0
94	62	108	0
95	146	109	0
96	42	110	205
97	14	111	187
98	64	112	2
99	119	113	44
100	241	114	32
101	254	115	233
102	40	116	24
103	200	117	165
104	254	118	79
105	118	119	201

### PRO/FILE Basic ADD/EDIT Routines

Lower case letters signify INVERSE characters (white on black G-cursor)

```
310 PRINT AT 0,20;"edit/file"
320 GOTO 503
495 GOTO 509
500 IF B=1 THEN CLS
501 PRINT "add/file--enter titl
e";AT 3,0;">*"
503 LET Y=3
504 LET L=262+(PEEK 16400+256*P
EEK 16401)
505 LET MC=L-256+21
506 PRINT AT 16,0;"PRESS ""C""
TO CLOSE THE FILE. ARROWS MOV
E THE "">"" HIT ente
r TO INPUT DATA";Q$;Q$;Q$
507 IF LEN Y$>=29 THEN PRINT AT
20,0;"data too long--re/input"
508 SLOW
509 PRINT AT Y,0;">";AT Y,0;
510 LET Y$=CHR$(USR MC)
515 IF Y$="C" THEN GOTO 602
520 LET Y=PEEK 16683
522 LET MC=L-256+21+5
525 IF Y$="I" THEN GOTO 400
552 PRINT AT 16,0;" INPUT DATA.
PRESS JUST enter TO DELE
TE";Q$;Q$;Q$
554 INPUT Y$
555 FAST
556 IF Y=3 AND Y$="" THEN GOTO
650
557 IF Y=3 THEN LET Y$=""+Y$
558 IF LEN Y$>28 THEN GOTO 507
560 PRINT AT Y,0;Q$;AT Y,1;Y$
561 IF Y=14 THEN GOTO 506
563 POKE 16683,1+PEEK 16683
564 LET Y=PEEK 16683
565 GOTO 506
```

Once the changes are made, type GOTO 17 to get Pro/File running again. Save an experimental copy on tape, and then try out the new edit mode. You'll note that the cursor doesn't blink like it used to, but pressing the 6 or 7 keys does move it just as before.

One final difference is that after you input a line of text, the screen blanks for an instant. This is caused by the computer going into FAST to speed up some rather slow computations in Basic lines 556 to 565 before going back into machine code.

I found that if line 555 was eliminated a fast finger could BREAK the computer while these lines were executed. If the machine is in FAST mode here, it's virtually impossible.

Following, is a HOT-Z disassembly of the keyboard routine. (If you are learning MC, you NEED Hot-Z). Space does not permit a full blown explanation of what the code does. Read Barry Boyer's article, MC Inkey\$ in September 1983 SYNTAX Newsletter.

#### USE PRO/FILE TO DOCUMENT YOUR PROGRAMS

John Eddington, Edmonton, Alberta

A use for Pro/File I haven't seen mentioned is on a backup computer with 16K--printer optional--as an index of variables while "composing" a program. I'm sure we've all had the frustration of being interrupted from programming by calls to food or bed from sheer exhaustion, and then have to back track for hours in order to remember what a particular variable or program line was intended to do.

If the TV's channel 2 is used for one computer and a UHF channel is used for the other, then all that is needed is a simple switch of the channel selector to flip from one display to the other. I find no interference or other problems doing this, and that it is a useful way to keep track of what's going on in a program.

#### KEYBOARD READ ROUTINE

This routine loops through a key scan, moving a cursor up or down in response to pressing the "6" or "7" keys.

The code returns to Basic when the key press is an "I", "C", or ENTER. On return, BC holds the code for the last key pressed and address 412B hex stores the line on which the cursor is located. 412B is an unused byte in one of Pro/File's REM lines. In decimal it is 16683.

```

00000001  START  LD  A,03
00000002  LD  (412B),A
00000003  KBD?  CALL 02BB
00000004  INC  L
00000005  JP  Z,KBD?
00000006  DEC  L
00000007  PUSH HL
00000008  POP  BC
00000009  D00D  CALL 07BD
0000000A  LD  BC,0021
0000000B  LD  A,(HL)
0000000C  PUSH AF
0000000D  LD  HL,1400E
0000000E  XOR  A
0000000F  LD  (HL),A
00000010  POP  AF
00000011  CP  22
00000012  CP  74,DOWN
00000013  CP  75,UPC_
00000014  CP  7E
00000015  CP  7F,INST
00000016  JP  CYCL
00000017  DOWN  ADD  HL,BC
00000018  LD  A,(412B)
00000019  INC  A
0000001A  LD  (412B),A
0000001B  CP  0F,FINI
0000001C  JP  C,FINI
0000001D  UPC_  SBC  HL,BC
0000001E  LD  A,(412B)
0000001F  DEC  A
00000020  LD  (412B),A
00000021  CP  03
00000022  JP  C,DOWN
00000023  FINI  LD  1400E,(HL)
00000024  CYCL  LD  C,A
00000025  MISC  PUSH AF
00000026  LD  A,92
00000027  LD  HL,1400E
00000028  LD  (HL),A
00000029  POP  AF
0000002A  CP  28
0000002B  RET  Z
0000002C  CP  76
0000002D  RET  Z
0000002E  NOP
0000002F  NOP
00000030  NOP
00000031  CALL 02BB
00000032  INC  L
00000033  JP  NZ,MISC
00000034  JP  KBD?
00000035  INST  LD  C,A
00000036  RET

```

Charlie Fagg, Austin TX

When you type SAVE from the Main Menu the computer asks you to type in the date and time before the program goes on tape.

```

18 PRINT "ZX PRO FILE ",R$
:IT$="ENTER A SEARCH COMMAND"
OR TYPE "A" TO ADD " " "3
AVE" TO SAVE " " "SPACE OPEN
LEN D$-P;" SLOTS",AT 10,0;"SEPAR
ATE MULTI-WORD","COMMANDS WITH A
" " " "TYPE " "AUTO" " FOR AUT
O-SEARCH"

```

```

4000 CLS
4010 PRINT AT 10,0,"LAST ACCESS
TO THIS FILE WAS",R#," ",T#
4020 PRINT "INPUT TODAY'S DATE (A
S 12/25/83) "
4030 INPUT R#
4040 PRINT "INPUT TIME (AS 2 35
PM) "
4050 INPUT T#
4060 SAVE "Z*"
4070 GOTO 17

```

Sell that piece of gadgetry that failed the smoke test, or that extra printer, or memory pack. Non-commercial ads: \$5.00 for 5 lines.

MEMOTECH ASSEMBLER plug-in software. Use to help you write machine code. Used but in otherwise good condition. \$30 from Tom Woods, P.O. Box 64, Jefferson, NH 03583

## by Jerry Gillen

This modification changes the computer to the SLOW mode for data entry. Being a very short program addition, I did not re-DIM D\$ downward for more room and have had no trouble. Some readers may want to just in case.

An asterisk (\*) before the line number indicates a new program line. The other lines are either included for ease of entry or are existing lines with only their line numbers (and sometimes the number to which a GOTO or GOSUB jumps) changed.

```
* 00000000 SLOW
00000004 INPUT X#
* 00000008 FAST
0000000C IF X#="SAVE" THEN SAVE "Z,"
00000010 IF X#="SAVE" THEN GOTO 2000
00000014 IF X#="000000"
00000018 IF X#="AUTO" THEN GOTO 665
* 00000000 SLOW
00000004 INPUT Y#
* 00000008 FAST
* 6600 SLOW
6600 PRINT AT 13.0 "PRINT OUT?"
Q# Q#
* 7000 FAST
7100 GOSUB 1199
*1190 SLOW
*1200 FAST
1200 IF Y=2 THEN GOTO 1199
00000000 GOSUB 1199
00040000 GOSUB 1199
```

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